

Application No. 09/670,424
Response to Final Office Action

Customer No. 01933

REMARKS

Reconsideration of this application, as amended, is respectfully requested.

RE: THE REJECTION UNDER 35 USC 112

The specification has been amended at page 21, lines 8-11 to clarify that the "column items" described in the specification correspond to the "item titles" recited in the claims. Thus, for example, the "item titles" recited in the claims may be "name," "age" and "state" as described in the specification with respect to the "column items." And it is respectfully submitted that the "item titles" as recited in the claims do not merely indicate any column or row data corresponding to one target segment, as asserted by the Examiner in item 9 on page 4 of the Final Office Action. Instead, as recited in the claims, the "item titles" are a title of a type of data, such as name data, age data or state data that can be used to designate an entire column/group of data segments, as is clearly recited in the independent claims.

In addition, it is noted that independent claims 30, 33, 34, 37 and 39-42 have been amended to change "memorizing unit" to "memory" and to change "memorizing" and "memorized" to "storing" and "stored." And it is respectfully submitted that these amendments clearly do not raise any new issues which would require further consideration on the merits and/or a new search,

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since the Examiner has already examined the claims by replacing "memorizing unit" with "memory" and by replacing "memorizing" with "storing." See item 9 on page 4 of the Office Action.

Still further, independent claims 30, 40 and 41 have been amended to clarify that the data segments of the at least one specified data segment group that is the target of the data search process are encrypted using the column key corresponding to the at least one specified data segment group. And independent claims 33, 34, 37, 39 and 42 have been amended to clarify that the data segments forming data segment groups corresponding to column item titles of a first kind are encrypted using a same column key for the data segments forming the data segment groups. That is, each of independent claims 30, 33, 34, 37 and 39-42 have been amended to even more clearly recite that all of the data segments in the data segment group(s) that are the target of the search (claims 30, 40 and 41) or that correspond to column item titles of a first kind (claims 33, 34, 37, 39 and 42) are encrypted using a same column key. And it is respectfully submitted that these amendments are merely clarifying in nature and that the subject matter of amended independent claims 30, 33, 34, 37 and 39-42 has already been considered by the Examiner.

Accordingly, it is respectfully submitted that no new issues have been raised which would require further consideration on the merits and/or a new search, and it is respectfully requested that

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the amendments to the specification and claims be approved and entered under 37 CFR 1.116.

It is respectfully requested, moreover, that the rejection 35 USC 112, first paragraph, be withdrawn.

RE: THE PRIOR ART REJECTION

Claims 30-42 were rejected under 35 USC 103 as being obvious in view of the combination of USP 5,963,642 ("Goldstein") and USP 5,915,025 ("Taguchi et al"). This rejection, however, is respectfully traversed.

According to the present invention recited in each of independent claims 30, 40 and 41, the database is encrypted by encrypting (in particular): (i) the data segments of the at least one specified data segment group that is the target of the data search process using the column key corresponding to the at least one specified data segment group, and (ii) data segments of at least one data segment group corresponding to item titles other than the stored item titles, in units corresponding to the records, using the different row keys of the respective records.

And according to the present invention as recited in each of independent claims 33, 34, 37, 39 and 42, the database is encrypted by encrypting (in particular): (i) data segments forming data segment groups corresponding to column item titles of a first kind using a same column key for the data segments forming the

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data segment groups and, (ii) data segments forming data segment groups corresponding to column item titles of a second kind, in units of rows of data segments, using respective row keys.

Thus, according to the claimed present invention, each data segment in a specified data segment group, or each data segment in a data segment group corresponding to a first kind of column item title, is encrypted using a same column key. That is, as explained in the Amendment filed on December 2, 2004, the columns of the database which are desired to be easily searchable are encrypted by the same column key, regardless of the row.

It is respectfully submitted that Goldstein does not disclose, teach or suggest this feature of the claimed present invention. In fact, it is respectfully submitted that the section of Goldstein referred to by the Examiner merely describes encrypting the information relating to dimensions of "compressed sparse matrices," and reordering columns in a BPM (binary property matrix) to increase the securing of q-code encryption (which is described in column 4 of Golstein). And it is respectfully submitted that neither of these processes corresponds to the feature of the present invention whereby all of the database data segments in the data segment group(s) that are the target of the search (claims 30, 40 and 41) or that correspond to column item titles of a first kind (claims 33, 34, 37, 39 and 42) are encrypted using a same column key.

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In addition, it is respectfully submitted that Goldstein does not disclose performing encryption only on a particular type of data segment group, in the manner of the claimed present invention, whereby the specified data segment group(s) or the data segment groups corresponding to column item titles of a first kind are encrypted using the column key, but the unspecified data segment group(s) or the data segment groups corresponding to column item titles of a second kind are encrypted differently based on the row keys.

On pages 5 and 6 of the Office Action, moreover, the Examiner acknowledges that Goldstein does not disclose encrypting data segments in a data segment group corresponding to other column titles by row using different row keys. For this reason, the Examiner has cited Taguchi et al to supply the missing teaching Goldstein.

It is respectfully submitted, however, that Taguchi et al merely discloses different encryption keys are used for data of different attribute types. And it is respectfully submitted that none of the sections of Taguchi et al cited by the Examiner disclose, teach or suggest encrypting data segments row-by-row using different row keys, if the data segments form a data segment group(s) corresponding to item titles other than the stored item titles (a data segment group that is not specified as

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a search target), or if the data segments are in data segment groups corresponding to column item titles of a second kind.

In view of the foregoing, it is respectfully submitted that even if Goldstein and Taguchi et al were combinable in the manner suggested by the Examiner, the claimed present invention still would not be achieved or rendered obvious.

Accordingly, it is respectfully submitted that independent claims 30, 33, 34, 37, and 39-42, as well as each of claims 31, 32, 35, 36 and 38 respectively depending therefrom, all clearly patentably distinguish over Goldstein and Taguchi et al, taken singly or in combination, under 35 USC 103.

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Entry of this Amendment, allowance of the claims and the passing of this application to issue are respectfully solicited.

If the Examiner has any comments, questions, objections or recommendations, the Examiner is invited to telephone the undersigned for prompt action.

Respectfully submitted,



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